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L2 same photonic	0

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<u>L7</u>	L2 same photonic	0	<u>L7</u>
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<u>L5</u>	L2 same stimulus	0	<u>L5</u>
<u>L4</u>	L1 same stimulus	0	<u>L4</u>
<u>L3</u>	L2 same electronic same photonic	0	<u>L3</u>
<u>L2</u>	sequence near0 specific near0 hybridization	1294	<u>L2</u>
<u>L1</u>	6265170	4	<u>L1</u>

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=> s sequence(w)specific(w)hybridization
L1 136 SEQUENCE(W) SPECIFIC(W) HYBRIDIZATION

=> s l1 (p)electronic
L2 3 L1 (P) ELECTRONIC

=> s l1 (p)photonic
L3 0 L1 (P) PHOTONIC

=> d bib ab 12

L2 ANSWER 1 OF 3 MEDLINE on STN
AN 2001410402 MEDLINE
DN 21234633 PubMed ID: 11333303
TI Electronic detection of nucleic acids: a versatile platform for molecular diagnostics.
AU Umek R M; Lin S W; Vielmetter J; Terbrueggen R H; Irvine B; Yu C J; Kayyem J F; Yowanto H; Blackburn G F; Farkas D H; Chen Y P
CS Clinical Micro Sensors Division of Motorola, Inc., Pasadena, California 91105, USA.
SO JOURNAL OF MOLECULAR DIAGNOSTICS, (2001 May) 3 (2) 74-84.
Journal code: 100893612. ISSN: 1525-1578.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 200107
ED Entered STN: 20010723
Last Updated on STN: 20010723
Entered Medline: 20010719
AB A novel platform for the **electronic** detection of nucleic acids on microarrays is introduced and shown to perform well as a selective detection system for applications in molecular diagnostics. A gold electrode in a printed circuit board is coated with a self-assembled monolayer (SAM) containing DNA capture probes. Unlabeled nucleic acid targets are immobilized on the surface of the SAM through **sequence-specific hybridization** with the DNA capture probe. A separate signaling probe, containing ferrocene-modified nucleotides and complementary to the target in the region adjoining the capture probe binding site, is held in close proximity to the SAM in a sandwich complex. The SAM allows electron transfer between the immobilized ferrocenes and the gold, while insulating the electrode from soluble redox species, including unbound signaling probes. Here, we demonstrate sequence-specific detection of amplicons after simple dilution of the reaction product into hybridization buffer. In addition, single nucleotide polymorphism discrimination is shown. A genotyping chip for the C282Y single nucleotide polymorphism associated with hereditary hemochromatosis is used to confirm the genotype of six patients' DNA. In addition, a gene expression-monitoring chip is described that surveys five genes that are differentially regulated in the cellular apoptosis

response. Finally, custom modification of individual electrodes through **sequence-specific hybridization** demonstrates the potential of this system for infectious disease diagnostics. The versatility of the **electronic** detection platform makes it suitable for multiple applications in diagnostics and pharmacogenetics.

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